UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,144	01/18/2002	Eric C. Erike	TRW(VSSIM)3971-1	6501

26294 7590 07/28/2004

TAROLLI, SUNDHEIM, COVELL & TUMMINO L.L.P.
526 SUPERIOR AVENUE, SUITE 1111
CLEVEVLAND, OH 44114

EXAMINER	
MORILLO, JANELL COMBS	
ART UNIT	PAPER NUMBER
1742	

DATE MAILED: 07/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/053,144	ERIKE, ERIC C.
	Examiner	Art Unit
	Janelle Combs-Morillo	1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) *9-11* is/are withdrawn from consideration.

5)☒ Claim(s) *1-7 and 12* is/are allowed.

6)☒ Claim(s) *13,14 and 16-18* is/are rejected.

7)☒ Claim(s) *8 and 13-19* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 8 and 13-19 are objected to because of the following informalities: claim 8 is drawn to a process for forming steel wherein, the instant amendment recites "the cold rolled steel sheet being resistant to hydrogen embrittlement and stress corrosion cracking *when welded*". Similarly, claim 13 recites "cold rolling... an amount effective to mitigate hydrogen embrittlement and stress corrosion cracking in the steel sheet when the steel sheet *is welded*". Because the instant process never mentions a welding step, it is unclear if an austenitic 301/301N steel alloy processed substantially as presently claimed would have the given characteristic.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 13, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 62-253732.

JP 62-253732 teaches a process of working an austenitic stainless steel strip comprising the steps of: hot rolling with a finishing temperature >950°C, quenching, pickling, cold rolling with a total reduction >30%, annealing, and temper rolling. The austenitic stainless steel

composition taught by JP'732 comprises (in weight%): less than 0.07% C, 18% Cr, and 8% Ni, which overlaps or touches the boundary of the presently claimed composition.

JP'732 does not teach a) the temperature the slug is at during hot rolling, or b) reducing the steel sheet in the last cold rolling pass in "an amount effective to mitigate hydrogen embrittlement and stress corrosion cracking in the steel sheet when the steel sheet is welded".

Concerning item a), because JP'732 teaches a hot rolling finishing temperature >950°C, it is held that the disclosure of JP'732 would enable one of ordinary skill in the art to hot roll austenitic stainless steels at a slug temperature of 1000-1200°C.

Concerning item b), because JP'732 teaches a process of hot rolling, quenching, and cold rolling substantially as presently claimed, then substantially the same improvement in hydrogen embrittlement and stress corrosion cracking resistance is expected to occur of JP'732 as for the instant invention (within the scope of the presently claimed "effective to mitigate").

Concerning dependent claim 14, JP'732 does not teach annealing after temper rolling, and is therefore held to teach "being free of an anneal after the cold rolling".

Concerning dependent claims 16 and 17, because JP'732 teaches a substantially overlapping alloy composition processed substantially as presently claimed, then substantially the same mechanical properties (such as YS, UTS, and elongation) are expected to occur.

Concerning dependent claim 18, as stated above, JP'732 comprises (in weight%): less than 0.07% C, 18% Cr, and 8% Ni, which overlaps or touches the boundary of the presently claimed composition.

4. Claims 13, 14, and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niemezura et al (US 5,858,135).

Niemezura et al teaches a process of working an austenitic stainless steel strip comprising the steps of: starting with a slab approximately 7-10 inches thick (column 1 lines 40-41), hot rolling said slab at temperatures above 1093°C (column 1 lines 48-49) to thickness typically ~ 0.1 inches (column 1 line 53), cooling to a cold rolling temperature (column 1 lines 58-61), pickling (column 5 line 5), cold rolling to thickness typically ~ 0.75-4.2 mm (column 5 line 30), wherein said cold rolling can include a final pass with 0.5-2% reduction (column 2 lines 1-3). The above stated process can be applied to Cr-Ni austenitic stainless steel alloys with 0.4% max C, 5-38% Ni, and 15-28% Cr (column 4 lines 4-6).

While the exact numerical ranges as claimed are not specified by Niemezura et al, the alloy composition taught by Niemezura et al overlaps the presently claimed alloy composition ranges. Because Niemezura et al teaches that it is well known to process such austenitic stainless steel alloys in a manner substantially as presently claimed, Niemezura et al is held to create a prima facie case of obviousness of the presently claimed invention.

Niemezura does not specify reducing the steel sheet in the last cold rolling pass in "an amount effective to mitigate hydrogen embrittlement and stress corrosion cracking in the steel sheet when the steel sheet is welded". However, because Niemezura teaches a process of hot rolling, quenching, and cold rolling substantially as presently claimed, then substantially the same improvement in hydrogen embrittlement and stress corrosion cracking resistance is expected to occur for Niemezura as for the instant invention.

Concerning dependent claim 14, Niemezura does not teach annealing after temper rolling, and is therefore held to teach "being free of an anneal after the cold rolling".

Concerning dependent claims 16 and 17, because Niemezura teaches a substantially overlapping alloy composition processed substantially as presently claimed, then substantially the same mechanical properties (such as YS, UTS, and elongation) are expected to occur.

Concerning dependent claim 18, as stated above, Niemezura teaches a broadly overlapping alloy composition.

Allowable Subject Matter

5. Claims 8, 15, and 19 are objected to as stated above, but would be allowable if said objection is overcome.

6. Additionally, claims 1-8, 12, 15, and 19 are allowable over the prior art of record. The examiner agrees that the closest prior art, JP'732 or Niemezura does not teach or suggest the presently claimed method of forming a steel sheet of the instant composition, complete with the instant cold rolling last pass reduction.

Response to Arguments/Amendments

7. In the response filed on May 13, 2004, applicant amended claims 1, 8 and added new claims 12-19. Applicant's argument that the present invention is allowable over the prior art of record because the prior art does not teach cold rolling in a final pass between about 3% and about 13% has been found persuasive.

8. However, Applicant's argument that the present invention is allowable over the prior art of record because the prior art does not mention reducing the steel sheet in the last cold rolling pass in "an amount effective to mitigate hydrogen embrittlement and stress corrosion cracking in the steel sheet when the steel sheet is welded", has not been found persuasive. Applicant has not

shown that the cold rolling reduction taught by the prior art leads to substantially different hydrogen embrittlement as compared to the instant invention. The examiner points out that the specific degree of improvement of "effective to mitigate" is very broad, and would be expected for the prior art (substantially as stated above).

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Jcm
July 26, 2004

GEORGE WYSZOMIERSKI
PRIMARY EXAMINER